RECLAMATION

Managing Water in the West

Colorado River Overview

February 2013

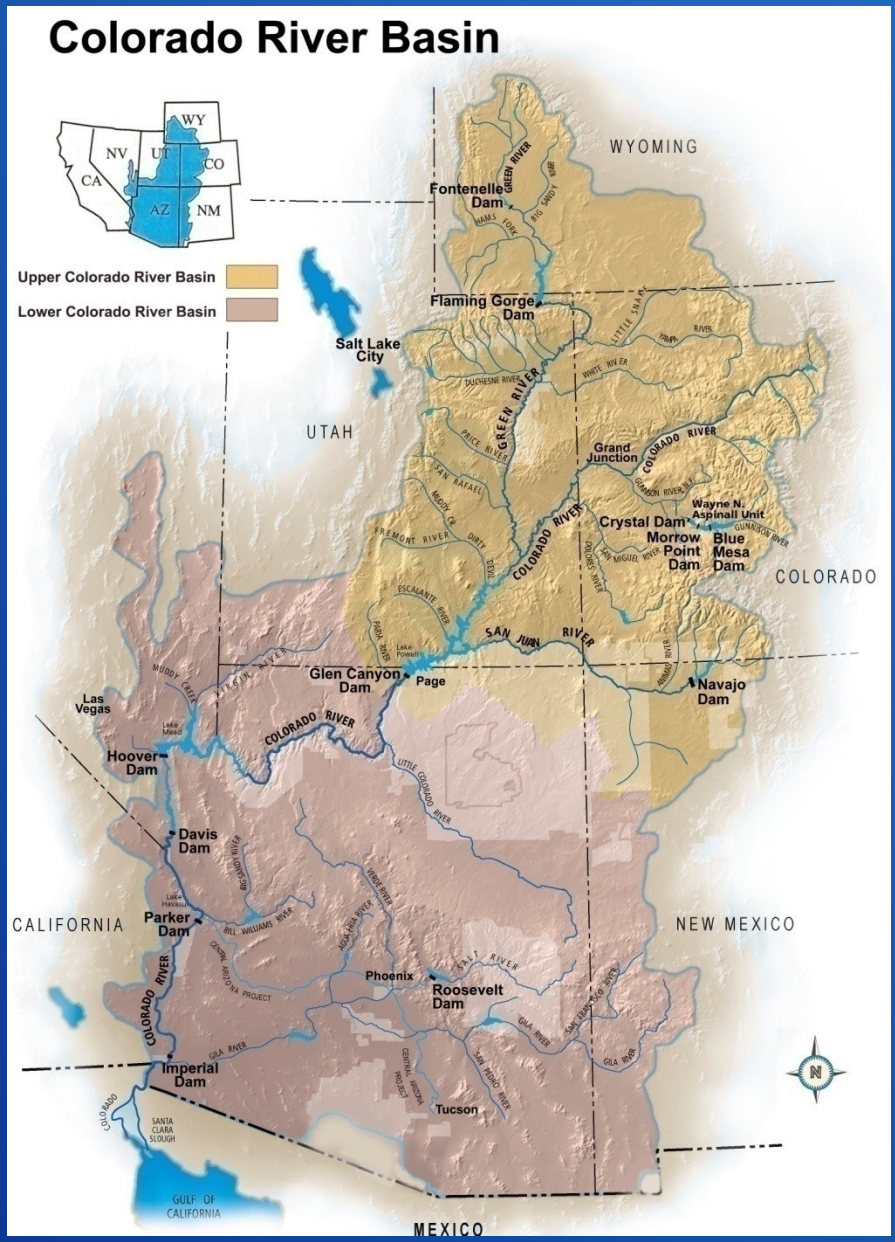
U.S. Department of the Interior
Bureau of Reclamation

Colorado River Overview

- Hydrology and Current Drought
- Management Objectives
- Law of the River
- Collaborative Efforts

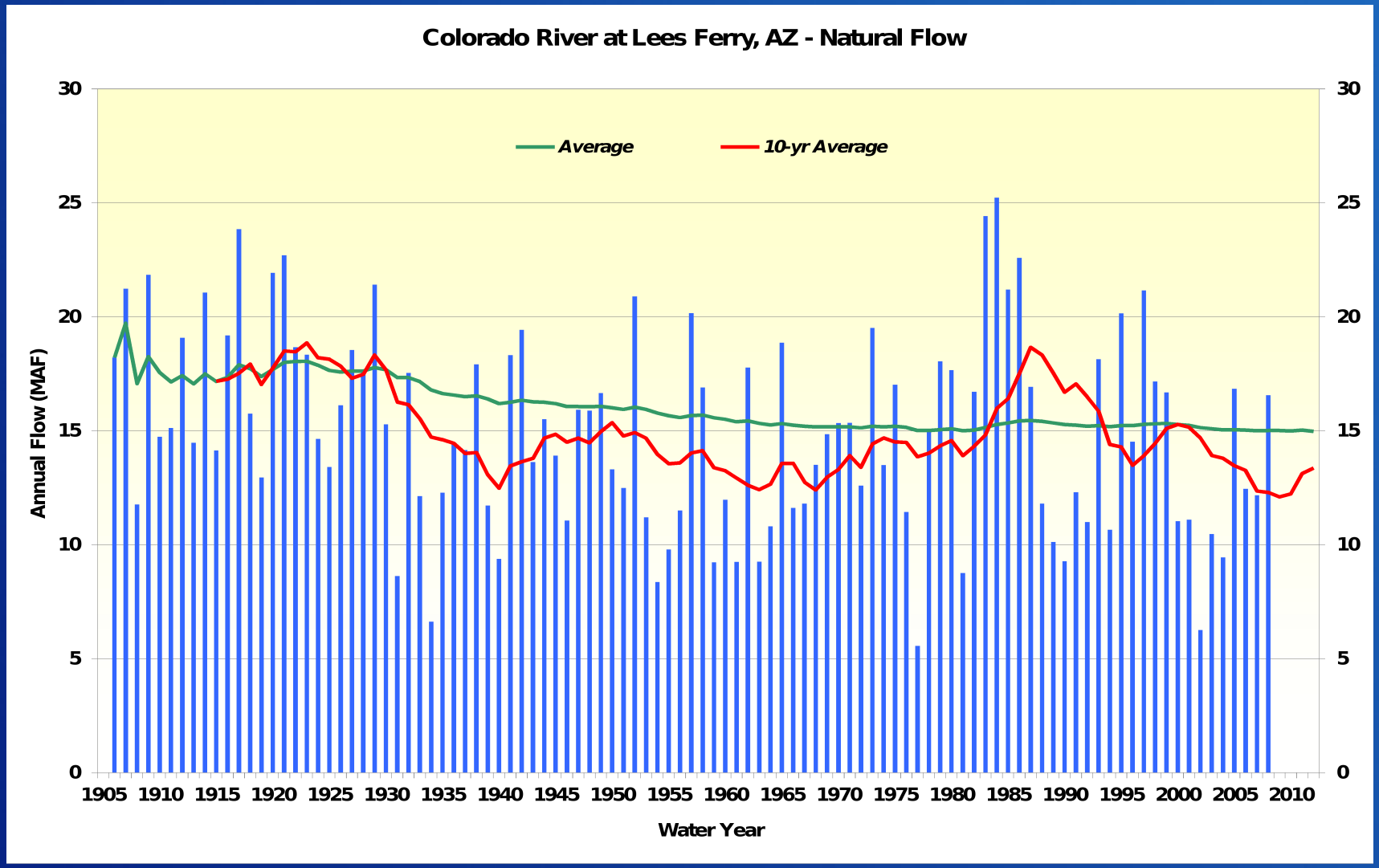
Hydrology

- 16.5 million acre-feet (maf) allocated annually
- 13 to 14.5 maf of consumptive use annually
- 60 maf of storage
- 15.0 maf average annual “natural” inflow into Lake Powell over past 100 years
- Inflows are highly variable year-to-year



RECLAMATION

Historical Annual Natural Flow at Lees Ferry, Arizona
Water Year 1906 to 2012



RECLAMATION

Current Snowpack and Precipitation

as of January 29, 2013

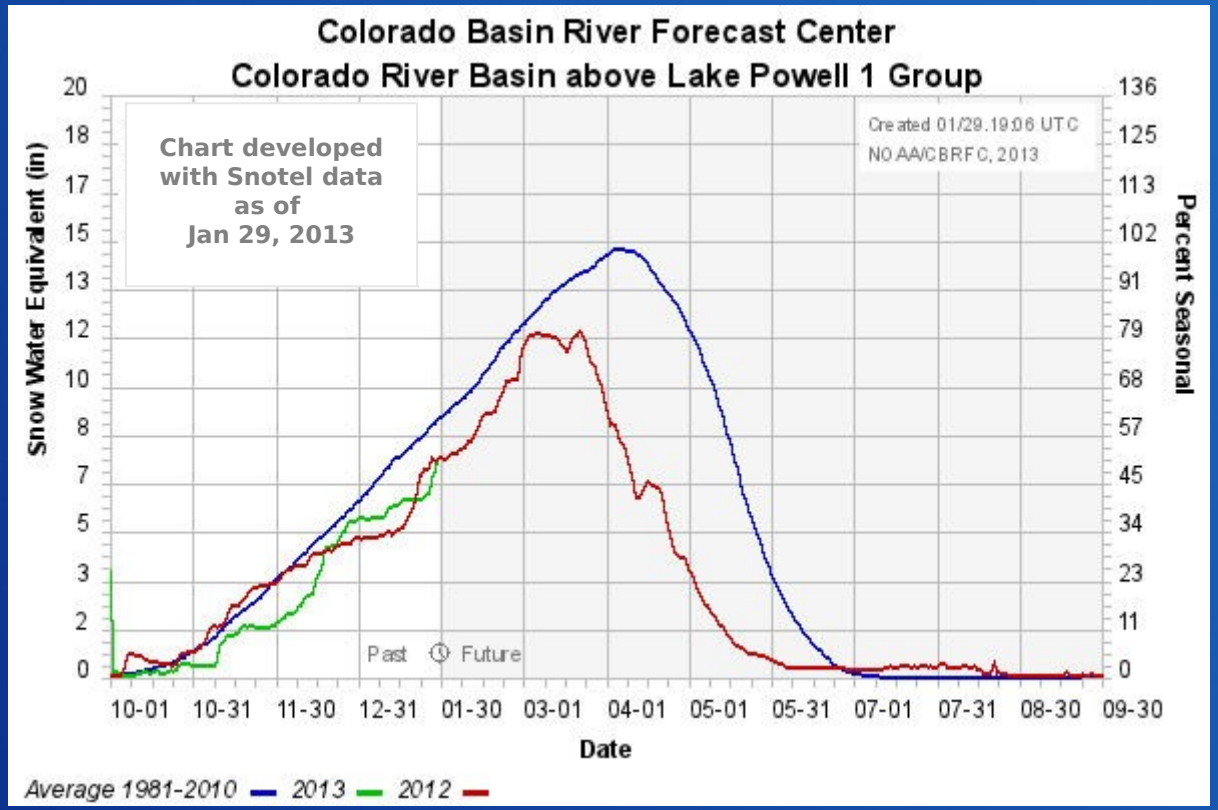
Colorado River Basin above Lake Powell

Water Year 2013 Precipitation (year-to-date)

75%

Current Snowpack

81%



Source: CBRFC

RECLAMATION

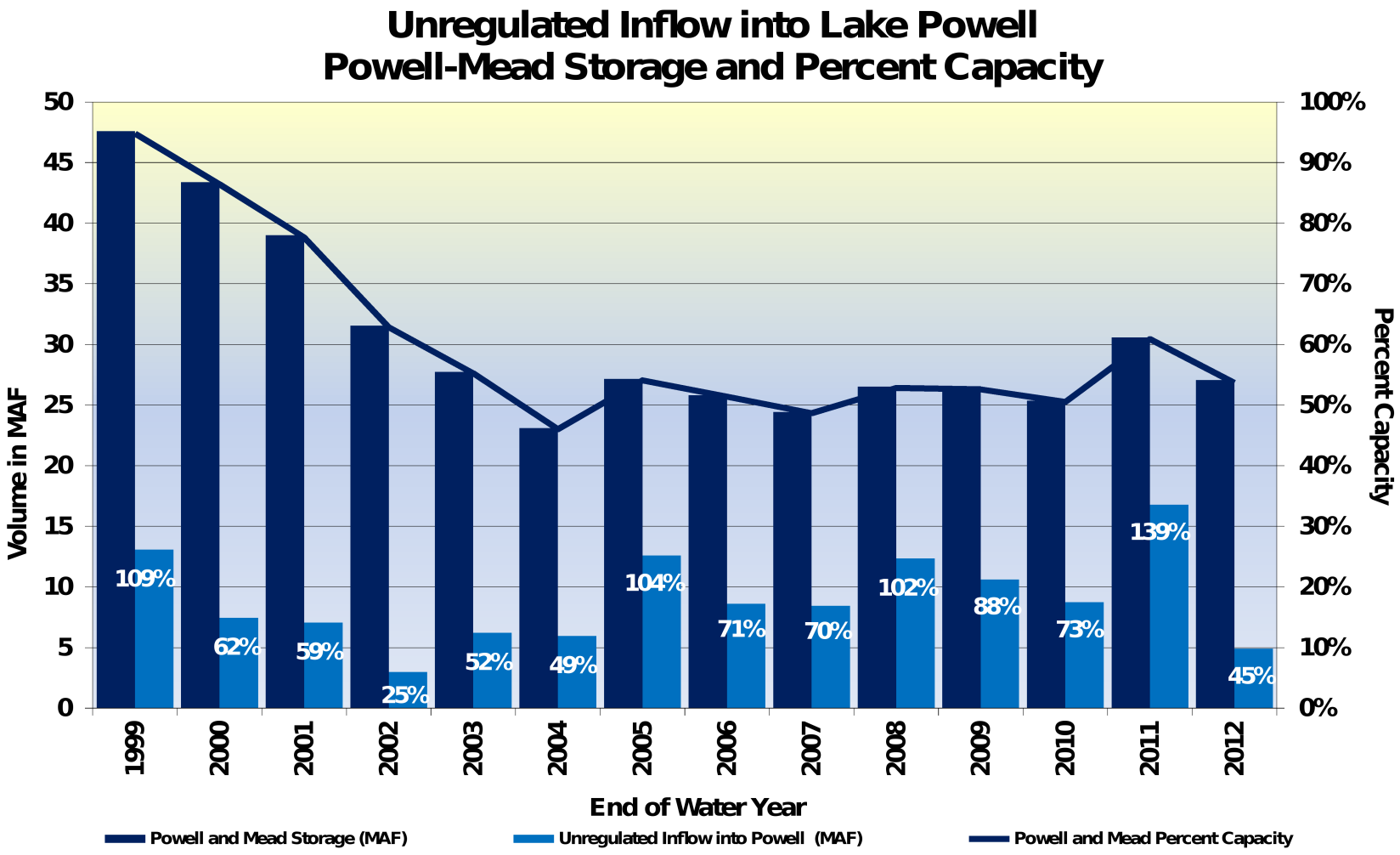
Current Drought

- 1999-2010 was the second driest 12-year period in the 100-year historical record
- Tree-ring reconstructions show more severe droughts have occurred over the past 1200 years
- Observed 2012 April through July runoff was 29% of average[1]
- Not unusual to have a few years of above average inflow during longer-term droughts (e.g., the 1950s)

[1] **Percent of average is based on the period of record from 1981-2010.**

RECLAMATION

State of the System (Water Years 1999-2012)[1]



[1] Percentages at the top of the light blue bars represent percent of average unregulated inflow into Lake Powell for a given water year. Water years 1999-2011 are based on the 30-year average from 1971 to 2000. Water year 2012 is based on the 30-year average from 1981-2010.

RECLAMATION

Colorado River Basin Storage
(as of January 28, 2013)

Current Storage	Percent Full	MAF	Elevation (Feet)
Lake Powell	50%	12.21	3,605
Lake Mead	53%	13.85	1,122
Total System Storage*	55%	32.78	NA

*Total system storage was 38.36 maf or 64% this time last year

RECLAMATION

Colorado River Basin Management Objectives

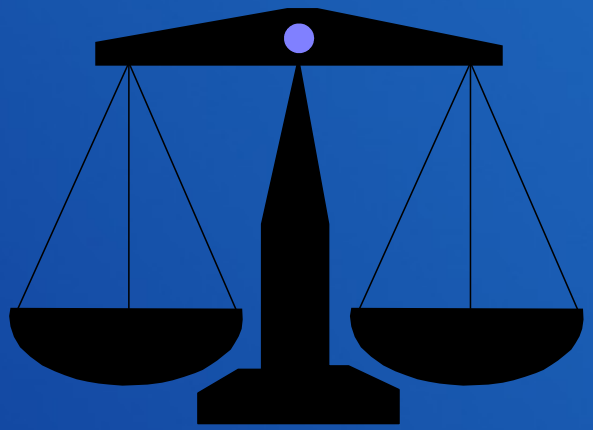
- Provide flood control and river regulation
- Meet water demands
- Generate hydropower
- Enhance and maintain ecosystem habitat
- Recover and protect endangered species
- Provide recreation

These objectives are often in conflict; we seek an equitable balance

RECLAMATION

Considerations for Achieving an Equitable Balance in Decision-Making

- Sound technical knowledge
- Legal and political constraints
- Community involvement and consensus-building



RECLAMATION

Law of the River

- Colorado River has been described as the “most closely regulated and controlled stream in the U.S.”
- Law of the River has evolved from a combination of:
  - Federal and state statutes
  - inter-state compacts
  - court decisions and decrees
  - an international treaty
  - contracts
  - operating criteria
  - administrative decisions and guidelines

Law of the River – Key Provisions

- Defines Upper and Lower Basins
  - Delivery commitment to the Lower Basin over any 10 year period
  - Allocates 7.5 maf per year to each basin
  - Apportions water among the seven Colorado River Basin States
- Allots 1.5 maf per year to Mexico
- Establishes the Secretary of the Interior (Secretary) as the “water master” in the Lower Basin
- Recent additions:
  - 2007 Interim Guidelines
  - Minute 319

2007 Interim Guidelines[1]

- Collaborative approach with U.S. stakeholders to establish domestic operating guidelines for Lake Powell and Lake Mead at all reservoir levels
- Encourage efficient and flexible use and management of Colorado River water
- Strategy for shortages in the Lower Basin, including a provision for additional shortages if warranted[2]
- In place for an interim period (through 2026) to gain valuable operational experience
- Basin States agree to consult before resorting to litigation

1. Full title: Record of Decision, Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead, December 2007; available at http://www.usbr.gov/lc/region/programs/strategies.html
2. Mexico water deliveries are not directly affected by these guidelines

Minute 319*

- Historic agreement between the U.S. and Mexico
- Collaborative approach to proactively address future demands on a limited and vital resource, providing benefits to both countries
- Extends humanitarian measures agreed to in Minute 318 (Dec. 2010) in response to the April 2010 earthquake in Mexico
- Encourage efficient and flexible water use and management by promoting sharing, storing and conserving water
- Unprecedented steps to provide water for ecological benefits
- In place for a 5-year interim period to gain operating experience
- A set of U.S. domestic agreements associated with Minute 319 was also necessary for implementation

* Full title: Minute No. 319, Interim International Cooperative Measures in the Colorado River Basin through 2017 and Extension of Minute 318 Cooperative Measures to Address the Continued Effects of the April 2010 Earthquake in the Mexicali Valley, Baja California. Signed in Coronado, California on November 20, 2012; available at http://www.ibwc.state.gov/Files/Minutes/Minute_319.pdf

Additional Collaborative Efforts

- Glen Canyon Adaptive Management Program
- Multi-species Conservation Program
- Colorado River Basin Water Supply and Demand Study
- Great examples of the strength and value of collaborative processes and stakeholder involvement

RECLAMATION

RECLAMATION